



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/591,988	06/19/2008	Akio Katsuki	KF-1005	6421
77319	7590	09/13/2011	EXAMINER	
Kubotera & Associates, LLC			SMITH, MATTHEW J	
200 Daingerfield Rd				
Suite 202			ART UNIT	PAPER NUMBER
Alexandria, VA 22314			3635	
			MAIL DATE	DELIVERY MODE
			09/13/2011	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/591,988	KATSUKI, AKIO	
	<b>Examiner</b>	<b>Art Unit</b>	
	Matthew J. Smith	3635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 22 July 2011.
- 2a) This action is **FINAL**.                    2b) This action is non-final.
- 3) An election was made by the applicant in response to a restriction requirement set forth during the interview on \_\_\_\_\_; the restriction requirement and election have been incorporated into this action.
- 4) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 5) Claim(s) 1-20 is/are pending in the application.
  - 5a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 6) Claim(s) \_\_\_\_\_ is/are allowed.
- 7) Claim(s) 1-20 is/are rejected.
- 8) Claim(s) \_\_\_\_\_ is/are objected to.
- 9) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 10) The specification is objected to by the Examiner.
- 11) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.
 

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____ .
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)	5) <input type="checkbox"/> Notice of Informal Patent Application
Paper No(s)/Mail Date _____ .	6) <input type="checkbox"/> Other: _____ .

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3, 6, 7, 9, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kellison (4586846) in view of Zublin (2500267) and Jansson (6592292).

Kellison discloses a method of installing an anchor bolt in a fixing surface while avoiding an existing member installed inside the fixing surface, comprising: drilling a first fixing hole 18 having a first diameter for fixing the anchor bolt in the fixing surface; drilling a second fixing hole having a second diameter from a distal end portion of the first fixing hole in an inclined state so that the second fixing hole avoids the existing member; and fixing the anchor bolt to the first fixing hole and the second fixing hole.

This reference does not disclose drilling a second fixing hole having a second diameter smaller than the first diameter or adjusting a shape of an anchor bolt freely bendable at a middle portion to fit to the first fixing hole and the second fixing hole.

Zublin shows drilling a first fixing hole having a first diameter for fixing the anchor bolt in the fixing surface; drilling a second fixing hole having a second diameter smaller than the first diameter; the first fixing hole is drilled with a first drilling bit detachably attached to a distal end of a first drilling tool; then, the first drilling bit at the distal end of

the first drilling tool is replaced with a guide bush 30; a second drilling tool is inserted through a guide hole 31 formed in the guide bush in an inclined state, Fig. 2; and the second fixing hole is drilled with a second drilling bit detachably attached to a distal end of the second drilling tool.

Jansson teaches adjusting a shape of an anchor bolt, freely bendable at a middle portion, to fit to a fixing hole to anchor members.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to use a guide bush in the substantially vertical hole to drill an inclined hole with a smaller diameter, as shown by Zublin, and use a bendable anchoring bolt, as taught by Jansson, in order to hold the Kellison bit in the desired orientation and permit the bolt to bend where necessary.

Claims 2, 5, 11, 14, 15, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kellison in view of Zublin, Jansson, and Arbegast et al. (5120175).

Kellison discloses a method of installing an anchor bolt in a fixing surface while avoiding an existing member installed inside the fixing surface, comprising: drilling a first fixing hole having a first diameter for fixing the anchor bolt in the fixing surface; drilling second fixing holes in an inclined state so that the second fixing holes avoid the existing member.

This reference does not disclose having a second diameter smaller than the first diameter from a distal end portion of the first fixing hole in an inclined state so that the second fixing holes avoid the existing member, adjusting a shape of an anchor bolt

freely bendable at a middle portion thereof to fit to the first fixing hole and the second fixing hole; and fixing the anchor bolt having a branched portions at the middle to the first fixing hole and the second fixing holes or the first fixing hole is drilled with a first drilling bit detachably attached to a distal end of a first drilling tool, then, the first drilling bit at the distal end of the first drilling tool is replaced with a guide bush, a second drilling tool is inserted through a guide hole formed in the guide bush in an inclined state, or the second fixing hole is drilled with a second drilling bit detachably attached to a distal end of the second drilling tool.

Zublin shows drilling a first fixing hole having a first diameter; drilling a second fixing hole having a second diameter smaller than the first diameter; the first fixing hole is drilled with a first drilling bit detachably attached to a distal end of a first drilling tool, then, the first drilling bit at the distal end of the first drilling tool is replaced with a guide bush 30; a second drilling tool is inserted through a guide hole 31 formed in the guide bush in an inclined state, Fig. 2; and the second fixing hole is drilled with a second drilling bit detachably attached to a distal end of the second drilling tool.

Jansson teaches adjusting a shape of an anchor bolt freely bendable at a middle portion to fit to the first fixing hole and the second fixing hole.

Arbegast et al. present an anchor bolt having branched portions at the middle, formed of a shape-memory alloy so that a distal end portion of the anchor bolt can open and close according to a temperature change.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to drill a successive, two diameters hole, as shown by Zubllin,

use a bendable anchor bolt, as taught by Jansson, and a branched, shape-memory alloy fastener, as presented by Arbegast et al., as the combined anchor bolt in order to fix an anchor bolt in an inaccessible hole for the Kellison system.

It would have been further obvious to drill more than one second fixing hole since the combined tool would have permitted additional holes to be drilled.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kellison in view of Zublin, Jansson, and Arbegast et al., as applied to claim 2 above, and further in view of Hill, III et al. (20020011356).

The combination discloses the invention substantially as claimed but not at least one of the plurality of the second fixing holes is drilled to penetrate through the existing member installed inside the fixing surface.

Hill, III et al. discuss structure to drill through steel reinforcing rods [0024].

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to anchor the bolt in an existing reinforcing member since Hill, III et al. discuss the tool, and thus the intent, to drill through an existing reinforcing member and, noting this intent, the anchoring would have been the same.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kellison in view of Zublin and Jansson, as applied to claim 6 above, and further in view of Hill, III et al. (20020011356).

The combination discloses the invention substantially as claimed but not at least one of the plurality of the second fixing holes is drilled to penetrate through the existing member installed inside the fixing surface.

Hill, III et al. discuss structure to drill through steel reinforcing rods [0024].

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to anchor the bolt in an existing reinforcing member since Hill, III et al. discuss the tool, and thus the intent, to drill through an existing reinforcing member and, noting this intent, the anchoring would have been the same.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kellison in view of Zublin and Jansson, as applied to claim 9 above, and further in view of Obermeier et al. (5069584).

The combination discloses the invention substantially as claimed but not the second drilling bit includes a guide portion and a grinding stone on an outer circumference surface, or the guide portion having a height same as that of the grinding stone.

Obermeier et al. describe a drilling tool having a guide portion 3 and a grinding stone 2 on an outer circumference surface.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to use a drilling tool with a guide portion and grinding stones, as described by Obermeier et al., in order to create the borehole.

It would have been an obvious design choice to have the guide portion with a height the same as the grinding stone since the dimensions of the guide portion are not critical to the hole size.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kellison in view of Zublin and Jansson, as applied to claim 12 above, and further in view of Spies.

The combination discloses the invention substantially as claimed but not the end portion includes a plurality of column bars bundled at both ends.

Spies depicts an anchor bolt having an end portion including bundled column bars 4.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to use bundled bars as the anchor bolt, as depicted by Spies, in order to provide a better fit.

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kellison in view of Zublin, Jansson, and Arbegast et al., as applied to claim 14 above, and further in view of Spies.

The combination discloses the invention substantially as claimed but not the first branch portion has a first diameter, and the second branch has a second diameter different from the first diameter.

Spies depicts an anchor bolt having an end portion including bundled column bars 4 and a first branch portion has a first diameter and another branch has a second diameter different from the first diameter (col. 5, lines 15-17).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to use different diameter branches as the anchor bolt, as depicted by Spies, in order to provide a better fit.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kellison in view of Zublin, Jansson, and Arbegast et al., as applied to claim 14 above, and further in view of Cohn (2755932).

The combination discloses the invention substantially as claimed but not at least one of the first branch portion and the second branch portion is connected to the main portion through a joint.

Cohn illustrates an anchor bolt having two branch portions connected to a main portion through a joint 24.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to a jointed anchor bolt, as illustrated by Cohn, in order to angle the ends.

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kellison in view of Zublin and Jansson, as applied to claim 1 above, and further in view of Mast (5796363).

The combination discloses the invention substantially as claimed but not the step of confirming the existing member with a radio-wave radar detector.

Mast portrays confirming the in-place rebar with a radio-wave radar detector (col. 1, line 33).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to locate the rebar using radar, as portrayed by Mast, in order to find the rebar before drilling.

Claim19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kellison in view of Zublin, Jansson, and Arbegast et al., as applied to claim 2 above, and further in view of Mast (5796363).

The combination discloses the invention substantially as claimed but not the step of confirming the existing member with a radio-wave radar detector.

Mast portrays confirming the in place rebar with a radio-wave radar detector (col. 1, line 33).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to locate the rebar using radar, as portrayed by Mast, in order to find the rebar before drilling.

***Response to Arguments***

Applicant's arguments, see page 11, filed 22 July 2011, with respect to the rejections of claims 1, 2 and 12 under 35 U.S.C. 102 and 103 have been fully considered and are persuasive. However, upon further consideration of the amendments to the claims, a new rejection is made in view of Kellison and Jansson.

Kellison explicitly states avoiding rebar to add a fastener. Jansson's anchor bolt being bendable allows holding the bolt in concrete members.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew J. Smith whose telephone number is (571)272-7034. The examiner can normally be reached on T-Th, 8-3.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eileen D. Lillis can be reached on 571-272-6928. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/EILEEN D LILLIS/  
Supervisory Patent Examiner,  
Art Unit 3635

/M. J. S./  
Examiner, Art Unit 3635  
1 September 2011